



## ***A Look at Environmental Noise, Part II: Nuisance Factors and Noise Ordinances***

In this, the second of our ongoing series intended to help our readers better understand what is involved in the study of environmental noise, we address nuisance factors and different types of noise ordinances created to limit the transfer of noise from one property to the next.

### ***What Factors Make a Sound a Nuisance?***

***Is it wanted?*** Since “noise” is defined as “unwanted sound”, this is the critical factor. A “sound” is what we make. A “noise” is what *someone else* makes. Noise is the sound of a party to which we weren’t invited! Similarly, noise from industrial or commercial centers is better tolerated in a community where the residents’ livelihood and/or the local economy is dependent upon the work carried out there.

***The noise level.*** Some noise levels are too loud and annoying no matter when, or for how short a duration, they occur. Each community sets its own standard as to how much is too much.

***The time of day.*** The noise level in our environment can be more or less annoying depending on the time of day. While we are active in our community during business hours, often we don’t even notice the noise level. But in the evening, nighttime and early morning, the same noise level can be highly intrusive and irritating.

***The character of the noise.*** A simple *tone* or “hum” created by rotating machinery (e.g., an air conditioner), *impulsive* sounds (sudden repeated or irregular noises like hammering), or sounds composed of *speech and/or music* can be very disturbing. Most jurisdictions penalize these types of sound with a +5 dB correction.

### ***What is a Noise Ordinance?***

A *noise ordinance* is a set of rules to establish the permissible level of noise that can propagate from one property to another, and is an integral part of the Municipal Code. The provisions attempt to take into consideration the nuisance factors described above. The noise levels promulgated by the ordinance can be *absolute, tiered* or *relative*.

### ***How Do Noise Ordinances Differ?***

Many noise ordinances quote an *absolute* level that may not be exceeded when measured at the source property line or on the receptor property at certain times of the day or night. Absolute levels are easy to assess and to apply.

*Tiered* levels can be difficult to apply. They are stated, for example, as: “Noise level that cannot be exceeded for a cumulative period of more than: 30 minutes in any hour — 60 dB(A) daytime, 55 dB(A) nighttime; 15 minutes in any hour — 65 dB(A) daytime, 60 dB(A) nighttime; 5 minutes in any hour — 70 dB(A) daytime, 65 dB(A) nighttime” etc. The difficulty arises in the interpretation of the noise level once it has been measured and any penalty for the character of the noise has been added to the measured level.

*Relative* levels with respect to the local *ambient noise*, state that a noise source may not exceed the ambient plus x dB. If no ambient level is quoted, such ratings invite argument. What exactly does the ambient include? To further muddy the waters, some ordinances define a *presumed ambient* level plus x dB as the not-to-exceed standard, which can lead to inequitable results. An actual “live” ambient measurement at the specific location in question will always give a more accurate level.

### **Checking Compliance**

In our next article in this series, we’ll look at noise measurement equipment and how to accurately take noise measurements to verify compliance with standards.

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